# POWERING A TIER-1 IPODWDM BACKBONE
## WITH IP INFUSION OCNOS

**One of the World's Largest Carrier-Neutral Interconnection Providers** has selected IP Infusion OcNOS to power its next-generation Data Center Interconnect (DCI) backbone. The deployment supports latency-sensitive, revenue-generating services across multiple metro regions, including rapidly growing AI/ML traffic, and demonstrates OcNOS as a Tier-1-ready platform for global-scale operations.

### Migration to IPoDWDM

Operating the world's densest interconnection ecosystem requires continuous evolution. Rather than extending transponder-based optical systems, the provider collapsed IP and optical layers into a unified IPoDWDM design.

This approach eliminated optical layer silos (optical transponders, cabling, transceivers, and other elements), reduced space requirements, deployment costs, and enabled native 400G support on IP switches, while preserving deterministic performance for latency-sensitive services.

### Why IP Infusion OcNOS

A Tier-1 IPoDWDM backbone requires a carrier-grade and efficient transport solution. OcNOS delivered across all critical factors:

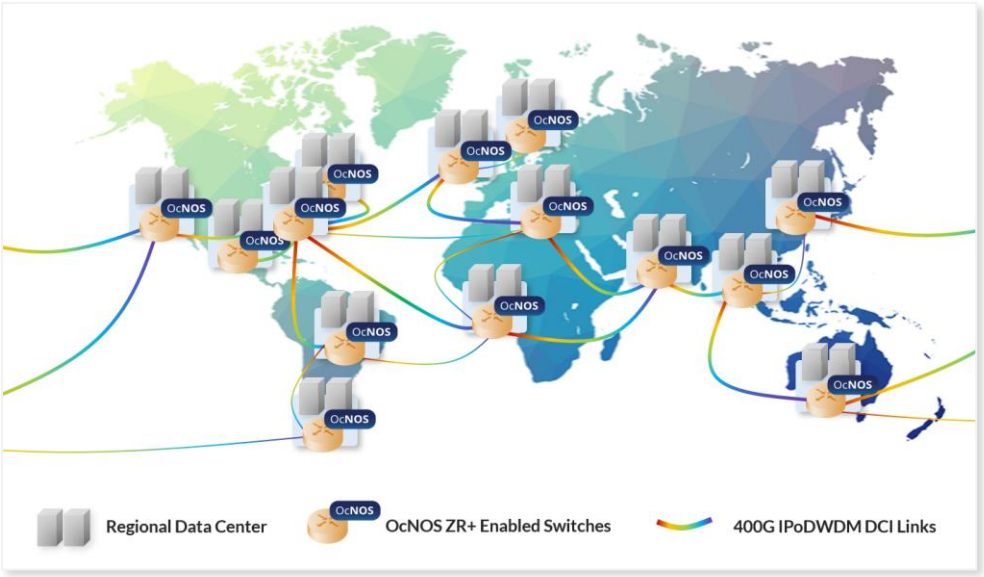
- **Feature Velocity:** IP Infusion demonstrated a superior ability to deliver deployment-ready IPoDWDM features on relevant hardware platforms at the pace required by a rapidly evolving transport landscape.
- **Industry Validation:** Widely deployed by global operators including NTT Group (IOWN 400G), MTN, SK Telecom (2025 IPoDWDM trial), Digi, and Telefonica. OcNOS holds TIP's Validated Solution Gold Badge and supports broad ecosystem interoperability.
- **True Open Networking:** OcNOS's hardware-agnostic design allowed the operator to pair it with optimal platforms and optics for global DCI, avoiding vendor lock-in common in coupled alternatives.

### Network Resilience and Performance

OcNOS provides sub-50ms recovery via SR-MPLS with TI-LFA and Flex-Algorithm, optimizing paths for AI/ML workloads. VXLAN-to-MPLS EVPN stitching ensures seamless DCI fabric integration, while ZTP and API automation streamline multi-vendor operations.

### Deployment Architecture

During deployment, the operator addressed key IPoDWDM challenges, such as integrating coherent optics management without blurring boundaries between IP and optical teams. OcNOS's native support




Reference Topology: OcNOS Tier-1 Data Center Interconnect Deployment

for ZR+ coherent pluggables enabled seamless orchestration integration, reducing manual interventions while preserving clear organizational demarcations.

- **Platform & Capacity:** The backbone is built on OcNOS SP PLUS running on UfiSpace 1RU and 2RU platforms powered by Broadcom Qumran and Jericho ASICs, delivering up to 14.4 Tbps per system and up to 36 × 400G OpenZR+ capable ports.
- **Optics Integration & Efficiency:** OcNOS provides native management of 400G ZR/ZR+ optics, including laser tuning, power control, modulation and FEC configuration, real-time telemetry, and advanced diagnostics (e.g., PRBS and loopback testing), fully integrated with the operator's orchestration systems.

## Strategic Impact

By adopting IP Infusion OcNOS, the operator created a future-ready interconnection backbone that delivers predictable performance for AI-driven workloads while reducing operational complexity. The disaggregated IPoDWDM architecture enables supply-chain agility through an open ecosystem of switches and coherent optics, supports a seamless evolution path toward 800G, and reduces footprint and power consumption, improving OPEX efficiency across the network.

## ABOUT IP INFUSION

Learn More

IP Infusion is a leading provider of open networking software and solutions for carriers, cloud service providers, and data centers. Our OcNOS® operating system enables network operators to disaggregate their networks to accelerate innovation, streamline operations, and reduce Total Cost of Ownership (TCO). IP Infusion network software platforms have a proven track record in carrier-grade open networking with over 500 customers and over 10,000 deployments. IP Infusion is headquartered in Santa Clara, Calif., and is a wholly owned and independently operated subsidiary of ACCESS CO., LTD. Additional information can be found at http://www.ipinfusion.com



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